

MC Tuning

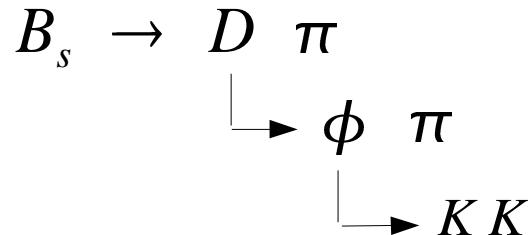
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General Plan

- Monte Carlo sample generation
- Optimization, tune MC to data
- Flavour tagging studies

- Used default GenTrig to check things are fine

Production: PYTHIA
 Decay: QQ



- Built simple module to plot few interesting variables
- Hepg, CdfTraks
- Production of $B \rightarrow \mu X$ sample
 - Gentrige MC with realistic trigger cuts
 - $p_t > 3.8 \text{ GeV}, |\eta| < 1.2$
 - Start with old (RunI) PYTHIA parameters
 - (Biased sample?)

- MC generation:
 - 20M bb → ~10000 after all cuts
 - CAF works very nicely, MOSIX died.
- Use a particular analysis:
 - Run on our MC
 - Run on data
 - Data MC comparison
- First look into Sasha and Ilya's analyses:
 - Lepton + D's
- Next steps: MC tuning (*forever*)

```
# filtering interesting events
Module enable GenTrigBFFilter
module talk GenTrigBFFilter
GenTrigBFFilter
  Reject set 1
  CodePDG set 13
  AbsPDG set 0
  PtMin set 3.8
  EtaMin set -1.2
  EtaMax set 1.2
exit
exit

# trigger simulation
module enable GenTrigModule
module talk GenTrigModule
GenTrigModule
  Verbose set 0
  UsePair set 0
  UseDiMu set 0
  UseMuSvt set 1
  CdfObjects set 1
exit

L2Bs
  D0Min set 0.120
  D0Max set 1.000
  BD0Max set 9e30
  DPhiMin set 2.000
  DPhiMax set 90.000
exit

L2Bd
  D0Min set 0.100
  D0Max set 1.000
  BD0Max set 0.140
  DPhiMin set 20.000
  DPhiMax set 135.000
exit
exit
```